

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Energy Corporation of America
Well Name/Number: ECA Foothills 2-H
Location: NW SW Section 13 T6S R17E
County: Carbon, **MT;** **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 10 to 20 days drilling time.

Unusually deep drilling (high horsepower rig): No, medium depth drilling with a double derrick or a small triple derrick drilling rig. Will drill a single lateral horizontal hole to 6000' MD/3525'TVD.

Possible H₂S gas production: No H₂S gas, anticipate crude oil from Cretaceous Greybull Sandstone Formation at total depth.

In/near Class I air quality area: Class I air quality area is the Custer National Forest, about 1.5 miles to the south from this location.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using a small triple or double derrick drilling rig. Well to be drilled to 6000' MD/3525'TVD. If there are existing pipeline for gas in the area then gas must be tied into system or if no gathering system nearby gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary to Morris Creek, about 3/8 of a mile to the southeast from this location.

Water well contamination: No, closest water well is about 1/8 of a mile to the east southeast and about 1/2 of a mile to the northwest from this location. Depth of this freshwater well is 90'. Surface casing hole will be drilled with freshwater/freshwater drilling muds. Steel surface casing will be run and cemented to surface from 452'. Main hole will be drilled with freshwater and freshwater mud (2% KCL)to drill a single lateral horizontal hole to 6000' MD/3525'TVD (Greybull Formation).

Porous/permeable soils: Yes, sandy gravelly rocky soils.

Class I stream drainage: Morris Creek may be a Class I stream.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

- ☐ Closed mud system
- ☐ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: _____

Comments: 452' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud system to be used to drill surface hole. Production casing will be cemented. Reserve pit is proposed to be lined with a 20 mil synthetic liner.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None.

High erosion potential: No, moderate cut, up to 16.5' and small fill, up to 5.0', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, a large wellsite, 330'X345' location size required.

Damage to improvements: Slight, surface use appears to be a grassland/forest.

Conflict with existing land use/values: Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☒ Other If well is productive, soil erosion measures will be instituted on all cut and fill slopes.

Comments: Access will be over existing county road, East Rosebud Road and existing ranch/well access road. A short access road will be built into this location. Cuttings will be disposed of in the lined reserve pit. Drilling fluids will be trucked to a commercial SWD. Pit will be backfilled when dry. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences about 1.75 miles to the east northeast from this location. The town of Rosco, Montana is about 6 miles to the northeast from this location. About 1.325 miles to the south and 3.125 miles west of this wellsite location is the Custer National Forest boundary.

Possibility of H2S: None, Cretaceous Greybull Sandstone Formation at total depth.

Size of rig/length of drilling time: Double derrick or small triple derrick drilling rig/short amount of drilling time, estimate 10 to 20 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: Operational BOP and adequate surface casing should mitigate any problems. Formations to be drilled are characteristically non H2S bearing. Distance to residences sufficient not to create a noise problem. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: Custer National Forest boundary is about 1.325 miles to the south and 3.125 miles west of this wellsite location.

Creation of new access to wildlife habitat: No, all surface access is private land controlled. Existing access roads for previous oil wells.

Conflict with game range/refuge management: None. No game range/refuge nearby.

Threatened or endangered Species: Threatened or endangered species listed are the Canada Lynx, Black-footed Ferret and Grizzly Bear. Species of Concern are the Greater Sage Grouse, Sprague's Pipit, Wolverine and the Whitebark Pine for Carbon County on the Region 6 USFWS website. NH Tracker website lists the following as species of concern: Wolverine and the Hoary Bat.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☒ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: _____

Comments: No concerns. Private surface lands. Public access, recreation and hunting issues are controlled by the private land owner. Surface use is grassland/forest, with surrounding private ranches. This location has had previous drilling and oil production. Those wells were plugged and the locations restored. Garbage will be stored in caged trailers and removed on a regular schedule. Location and pit will be fenced. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☒ other agency review (SHPO, DSL, federal agencies)

☐ Other: _____

Comments: No concerns. Drilling location is on private surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services
☐ Population increase or relocation
Comments: No concerns, wildcat exploratory well.

Remarks or Special Concerns for this site

Well is a wildcat single lateral horizontal exploratory oil well test to be drilled to 6000' MD/3525'TVD into the Cretaceous Greybull Sandstone Formation.

Summary: Evaluation of Impacts and Cumulative effects

No significant impacts or cumulative effects are expected from the drilling of this test well. No long term impacts expected, since the drilling of this well would take a maximum of 20 days and the completion and testing phase if productive another 30 days. Some short term impacts will occur, but can be mitigated in a short time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: March 14, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center
(Name and Agency)
Carbon County water wells.
(subject discussed)

March 14, 2012
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Carbon County
(subject discussed)

March 14, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T6S R17E

(subject discussed)

March 14, 2012

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____